Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for immobilizing nucleic acid on a solid phase substrate by co-adsorption, comprising:

bringing the solid phase substrate into contact with a composition comprising a total concentration of 0.1 to 2 μM of a nucleic acid as a probe and a compound or a salt thereof, the compound being represented by the following formula:

$$HS—L^1—L^2—R \qquad (I)$$

where: ~~wherein~~

L^1 is a single bond or a C_{1-15} alkylene group;

L^2 is selected from the group consisting of a single bond, a nucleic acid, a polyethylene glycol group, -CO-NH-, or -NH-CO-;

R is selected from the group consisting of a hydroxyl group, an amino group, a ferrocenyl group, or a carboxyl group; and

L^1 and L^2 are not both single bonds; ~~provided that neither L^1 nor L^2 is a single bond,~~ and

incubating the composition in contact with a surface of the solid phase substrate.

2. (Currently Amended) The method according to claim 1, wherein:

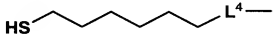
the nucleic acid as a probe comprises a polynucleotide or an oligonucleotide consisting of modified or unmodified, single-stranded DNA, RNA, PNA, amino cyclohexanyl nucleic acid, or hexitol nucleic acid ~~CNA, or HNA~~.

3. (Original) The method according to claim 1, wherein the nucleic acid as the probe comprises at the 3' end or the 5' end a group represented by the following formula:

$$HS—L^3—L^4— \qquad (II)$$

wherein L^3 is a C_{1-15} alkylene group, and L^4 is a single bond or a spacer.

4. (Original) The method according to claim 1, wherein the nucleic acid as the probe has at the 5' end a group represented by the following formula:



(III)

wherein L^4 is a single bond or a spacer.

5. (Currently Amended) The method according to claim 4, wherein

L^4 is selected from the group consisting of a nucleic acid, -CO-NH-, -NH-CO-, a polyethylene glycol group, and ~~or~~ a polyethylene glycol phosphate group.

6. (Original) The method according to claim 1, wherein the total concentration of the nucleic acid and the compound I or the salt thereof in the composition is 0.5 to 1.5 μM.

7. (Original) The method according to claim 1, wherein the total concentration of the nucleic acid and the compound I or the salt thereof in the composition is 1 μM.

8. (Original) The method according to claim 1, wherein the composition comprises the nucleic acid and the compound I at a ratio of 40/60 to 60/40.

9. (Original) The method according to claim 1, wherein R in the formula I is a hydroxyl group.

10. (Original) The method according to claim 1, wherein L^1 in the formula I is a single bond, and L^2 is a polyethylene glycol group.

11. (Original) The method according to claim 1, wherein L^1 in the formula I is a C_{4-8} alkylene group, and L^2 is a single bond.

12. (Original) The method according to claim 1, wherein the compound I is 6-mercapto-1-hexanol.

13. (Original) The method according to claim 1, wherein the solid phase substrate is a single layered substrate or a multiple layered substrate comprising at least one material selected from the group consisting of glass, polymer resin and metal.

14. (Original) The method according to claim 1, wherein the surface of the solid phase substrate on which nucleic acid is adsorbed is coated with a thin gold film.

15. (Original) The method according to claim 1, wherein the solid phase substrate is a glass substrate with a thin gold film vapor-deposited on its surface, and may further comprises, at least one intermediate layer between the thin gold film and the glass substrate.

16. (Original) The method according to claim 1, wherein the nucleic acid as the probe has 15 to 30 base length.

17. (Original) The method according to claim 1, wherein the incubation is carried out at a temperature of 25° C to 40° C.

18. (Currently Amended) The method according to claim 1, wherein:

the nucleic acid as the probe is a polynucleotide or an oligonucleotide selected from the group consisting of single-stranded DNA, RNA, and ~~or~~ PNA, and may also have ~~has~~ the group represented by formula II; ~~formula II,~~

~~the~~ compound I is 6-mercapto-1-hexanol;

the total concentration of the nucleic acid and 6-mercapto-1-hexanol in the composition is 0.5 to 1.5 μM; and

the solid phase substrate is a glass substrate with a thin gold film vapor-deposited on its surface, and further, at least one intermediate layer may be made between the thin gold film and the glass substrate.

19. (Withdrawn) A method for manufacturing a biosensor having a nucleic acid probe as a sensing site comprising the use of the nucleic acid immobilization method according claim 1 .

20. (Withdrawn-Currently Amended) A biosensor comprising a solid phase substrate and a nucleic acid probe thereon as a sensing site, the biosensor manufactured by a method for immobilizing nucleic acid on a solid-phase substrate by co-adsorption comprising the steps of:

bringing a composition containing a nucleic acid and a compound or a salt thereof at a total concentration of 0.5 to 1.5 μM into contact with the solid phase substrate, the compound being represented by the following formula:

$$HS—L^1—L^2—R \qquad (I)$$

where: ~~wherein~~

L^1 is a single bond or a C_{1-15} alkylene group;

L^2 is selected from the group consisting of a single bond, a nucleic acid, a polyethylene glycol group, -CO-NH-, or -NH-CO-;

R is selected from the group consisting of a hydroxyl group, an amino group, a ferrocenyl group, or a carboxyl group; and

L^1 and L^2 are not both single bonds; ~~provided that neither L^1 nor L^2 is a single bond,~~ and

incubating the composition in contact with a surface of the solid phase substrate.

21. (Withdrawn-Currently Amended) The biosensor according to claim 20, wherein

~~the~~ compound I is 6-mercapto-1-hexanol; ~~6-mercapto-1-hexanol,~~

the solid phase substrate is a glass substrate with a thin gold film vapor-deposited on its surface, and further,

the solid phase substrate may comprise ~~comprises~~ at least one intermediate layer between the thin gold film and the glass substrate.

22. (Withdrawn) A method for detecting a target nucleic acid molecule in a test sample by detecting a measurable signal, comprising the steps of:

(a) bringing the test sample into contact with a biosensor having a nucleic acid probe manufactured by using the nucleic acid immobilization method according to claim 1, and

incubating the test sample in contact with a surface of the biosensor;

(b) applying light to the solid phase substrate of the biosensor from the opposite side of the surface to which nucleic acid is immobilized, continuously or intermittently from before to after step (a); and

(c) measuring a shift of reflectivity of the solid phase substrate by detecting the reflection of the light applied in step (b).

23. (Withdrawn) The method according to claim 22, wherein the method is used for detecting DNA, RNA, or single nucleotide polymorphisms.

24-25. (Cancelled)